

# Research Highlights from UVa ILP Group

---

Yangfeng Ji

Information and Language Processing Lab  
Department of Computer Science  
University of Virginia



ENGINEERING

- ▶ Research focuses: natural language generation, interpretability, and robustness
- ▶ Goal: building efficient and trustworthy NLP systems
- ▶ Six Ph.D. students, three of them are co-advised on the intersection with Security, System, and Software Engineering
- ▶ Three undergraduate students and three master students

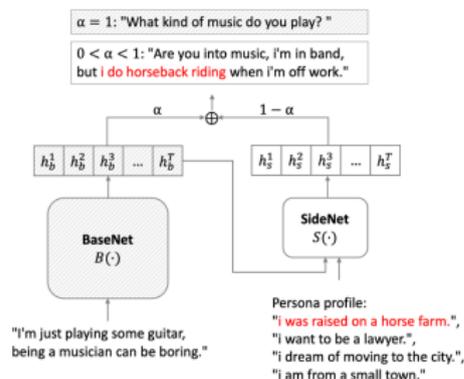


# Research Highlights: Natural Language Generation

- Entity-driven story generation [NAACL 2018]

<b>Context</b>	All of a sudden, [Emily] <sub>1</sub> walked towards [the dragon] <sub>2</sub> .
<b>Current Sentence</b>	[Seth] <sub>3</sub> yelled at [her] <sub>1</sub> to get back but _____

- Controllable text generation with personal profile [EMNLP 2021]



- Additional prior work: paraphrase generation and text style transfer [EMNLP 2019, INLG 2021]
- Ongoing research: controllable NLG with limited examples

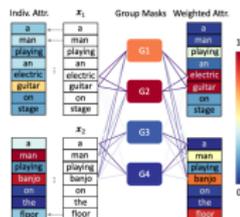
# Research Highlight: Explainable NLP

## Explanations beyond bag-of-words representations

- ▶ Explaining predictions via word compositions [ACL 2020]



- ▶ Explaining predictions via word interactions [NAACL 2021]



- ▶ Additional research: applications of explainable NLP, e.g., to improve model robustness [AAAI 2022], to identify suspicious features [Ongoing]